

Two new Phytoseiid Mites from Eastern India (Acarina: Phytoseiidae)

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(With six text-figures)

Until recently no attention has been paid to the phytoseiid mites in India. In 1960 Chant described *Typhlodromus (Amblyseius) salebrosus*, *T. (A.) assamensis*, *Typhlodromus (Typhlodromus) fleschneri*, and *T. (T.) rickeri*. Narayanan & Kaur (1960) described *T. (A.) delhiensis* and *T. (A.) indicus*. The same year, Narayanan, Kaur & Ghai (1960) recorded or described *T. (A.) fallacis* (Garman), *T. (A.) ovalis* Evans, *T. (A.) asiaticus* Evans, *T. (A.) orientalis*, *T. (T.) bakeri* (Garman), *T. (T.) confusus*, *Phytoseius macropilis* (Banks), and *P. minutus*. Later Narayanan & Ghai (1963) also recorded and described the following species associated with malformation of mango trees: *T. (T.) roshanlali*, *T. (T.) rhenanus* (Oudemans), and *T. (T.) nesbitti* (Womersley). During the present study, small collections of acarina have been made in the province of West Bengal, India. In these collections two species were found to be new to science and are described herein, based on females only: *Typhlodromus (Amblyseius) amitae* sp. nov., and *Phytoseius (Dubiniellus) indicus* sp. nov.

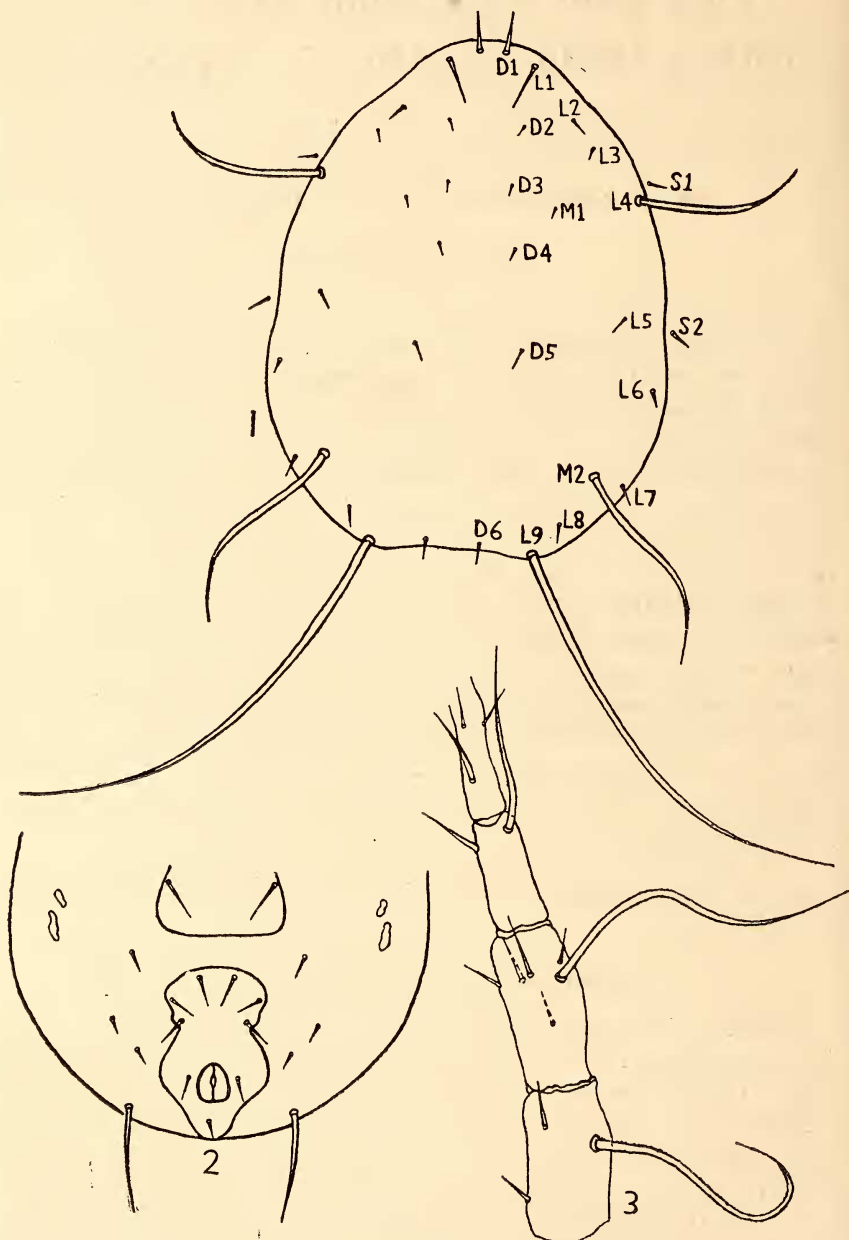
The type material is deposited in the Collections of the Zoological Survey of India, Calcutta.

Typhlodromus (Amblyseius) amitae sp. nov.

FEMALE. Dorsal shield (length 0.304 mm.; width 0.208 mm.) with 17 pairs of setae i.e., 9 pairs lateral, 6 pairs dorsal, and 2 pairs median series (Fig. 1). Setae L4 0.064-0.072 mm., L9 0.208-0.220 mm. and M2 0.068 mm. long and whip-like. Setae L1, L2, L3, L5, L6, L7 and L8 0.032, 0.008, 0.004, 0.008, 0.012, 0.014 and 0.012 mm. long respectively. Setae D2, D3, D4, and M1 equal in length (0.004 mm.). Setae D1 varying in length (0.024-0.028 mm.). Both D5 and D6 0.008 mm. long. All sacral setae: S1 and S2 0.012 mm. in length and lying on interscutal membrane.

Sternal shield with usual pairs of setae and posteriorly concave. Metasternal seta lying on discrete platelet. Genital shield wedge-shaped,

truncate posteriorly, and with a pair of marginal setae. Ventri-anal shield (long 0.092 mm.; wide 0.060 mm.) vase-shaped, with lateral



***Typhlodromus (Amblyseius) amitae* sp. nov.**

FIGS. 1-3. Female: 1. dorsum, L1-9 setae of lateral series, D1-6 setae of dorsal series, M1-2 setae of median series, S1-2 sacral setae; 2. part of posterior venter; 3. genu, tibia and tarsus of leg IV.

margins constricted (Fig. 2) and forming a waist, then flaring to make shield to be widest opposite anus, and bearing 3 pairs of pre-, 1 pair of par- and a post-anal setae. Four pairs of setae present on interscutal membrane surrounding ventri-anal shield. Two pairs of metapodal plates present. Post-stigmatal extension of peritrematal shield slightly encircling coxa IV; and peritreme anteriorly extending on to dorsum and almost meeting in mid-line.

Legs with ambulacra. Leg IV with macrosetae (Fig. 3).

MALE. Unknown.

Locality: The holotype female, and two paratype females on *Hibiscus* sp. (lower side of leaves, mainly by the midrib), Sitala, Sonarpur, 24 Parganas District, West Bengal, Dr. S. K. Bhattacharyya, 18-5-1963.

Remarks: Similar to *T. (A.) schusteri* Chant, 1959, but differing in the relative lengths of some lateral setae (L3 half the length of L2), together with the shape of the ventri-anal shield.

This species is named after the author's sister Miss Amita Bhattacharyya, who helped me in making collections.

Phytoseius (Dubininellus) indicus sp. nov.

FEMALE. Dorsal shield (length 0.260 mm.; width 0.136 mm.) with 15 pairs of setae, i.e. 8 pairs lateral, 3 pairs dorsal, and one pair each of median, anterior sublateral, verticals, and clunals (Fig. 1). Setae L2, D1-D3, M1 and clunals short and simple; L4 short and slightly serrate; the remaining setae stout and serrate. Measurements of setae as follows: verticals 0.020 mm., D1 0.008 mm., D2 0.006-0.012 mm., D3 0.010-0.012 mm., M1 0.008 mm., L1 0.022 mm., L2 0.010-0.012 mm., L3 0.026-0.028 mm., L4 0.010 mm., L5 0.060-0.068 mm., L6 0.060-0.068 mm., L7 0.048-0.052 mm., L8 0.052 mm., clunals 0.008 mm., and anterior sublaterals 0.030-0.032 mm.

Sternal shield wider than long, with normal 3 pairs of setae. Meta-sternal seta situated on discrete platelet. Genital shield broad, truncate posteriorly, with a pair of marginal setae. Ventri-anal shield longer than wide, with 3 pairs of pre-anal setae in addition to a pair of par- and a post-anal setae (Fig. 2). Two pairs of setae present on interscutal membrane; ventrocaudal setae serrate and long. Metapodal plates not discernible. Peritreme almost reaching to vertical seta.

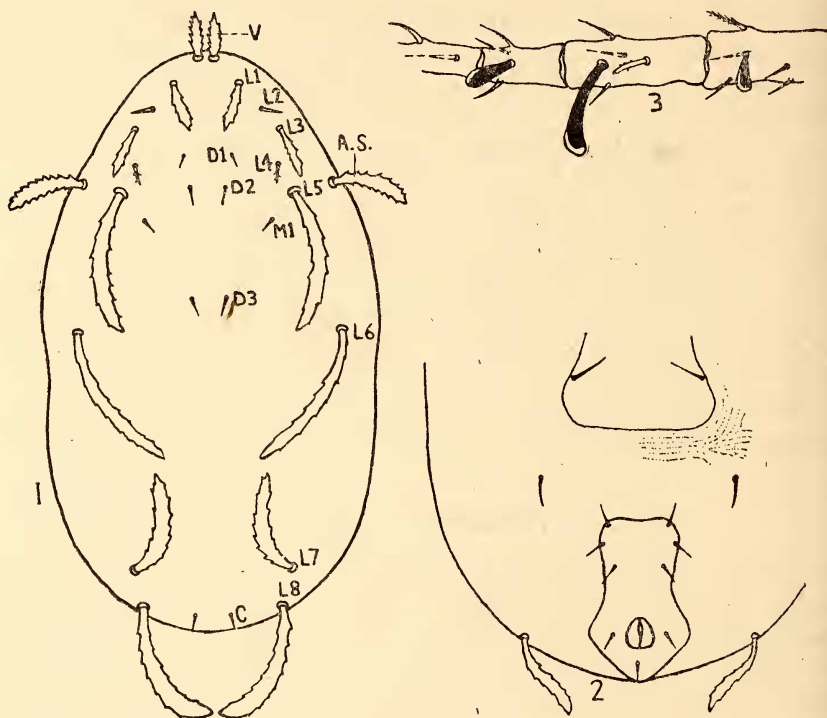
Chelicera of this unique specimen not drawn.

Macrosetae of genu, tibia, and basi-tarsus of leg IV 0.012 mm., 0.032 mm., 0.018-0.020 mm. long respectively (Fig. 3).

MALE. Unknown.

Locality: The holotype female from *Hibiscus* sp. leaf, Sitala, Sonarpur, 24 Parganas District, West Bengal, Dr. S. K. Bhattacharyya, 18-5-1963.

Remarks : *P. (D.) indicus* sp. nov. is closely related to *P. (D.) intermedius* Evans & Macfarlane, 1962, (also see Denmark, 1966) but is dis-



Phytoseius (Dubininellus) indicus sp. nov.

FIGS. 1-3. Female : 1. dorsum, L1-8 setae of lateral series, D1-3 setae of dorsal series, A. S. anterior sublateral seta, V vertical seta, C clunal seta ; 2. part of posterior venter ; 3. genu, tibia and tarsus of leg IV.

tinguished from the latter by : seta L2 not serrated and the presence of macrosetae on tibia, tarsus and basi-tarsus of leg IV.

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